



Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (*currently amended*) A ~~computer-implemented~~ method of ~~for~~ interfacing between one or more requestors and one or more airline availability information sources, comprising ~~the steps of~~:

- ~~(1) — receiving a first request from a first requestor for airline availability information;~~

- (2) querying one or more airline availability information sources for ~~the requested~~ airline availability information;

- ~~(3)~~ receiving the requested airline availability information from the one or more airline availability information sources;

- (4) caching the received airline availability information;

- ~~(5) — providing the received airline availability information to the requestor;~~

- (6) receiving queries ~~a second query~~ from ~~a second~~ requestors for the airline availability information;

prioritizing the requestor queries;

processing the requestor queries in accordance with the associated priorities;

- ~~(7)~~ determining to provide ~~amongst providing~~ the ~~second~~ requestors with at least one of the ~~following types of airline availability information~~: real-time airline availability information; and cached airline availability information

based at least in part on one or more factors associated with the requestors, the requestor queries, the requested airline availability information, and/or the airline availability information sources; and

(8) providing information to the ~~second~~ requestors in accordance with the determining ~~determination made in step (7)~~.

2. *(currently amended)* The method according to claim 1, further comprising ~~the steps of:~~

(9) monitoring airline availability information traffic between an airline availability information source and one or more clients of the airline availability information source; and

(10) caching at least a portion of the monitored airline availability information.

3. *(currently amended)* The method according to claim 1, further comprising ~~the steps of:~~

(9) proactively generating one or more queries independent of requestor queries; and

(10) sending the one or more proactively generated queries to an airline availability information source and caching information returned therefrom.

4. (*currently amended*) The method according to claim 1, further comprising ~~the steps of:~~

(9) monitoring airline availability information traffic between an airline availability information source and one or more clients of the airline availability information source;

(10) caching at least a portion of the monitored airline availability information;

(11) proactively generating one or more queries independent of requestor queries; and

(12) sending the one or more proactively generated queries to an airline availability information source and caching information returned therefrom.

5. (*currently amended*) The method according to claim 3, further comprising ~~the steps of:~~

(11) adding the requestor queries to a query priority queue;

(12) adding proactively generated queries to the query priority queue, at lower priorities than the requestor queries; and

(13) processing the requestor queries and the proactively generated queries according to their priorities.

6. (*currently amended*) The method according to claim 5, wherein the adding of the requestor queries step ~~(11)~~ comprises ~~the steps of~~:
- (a) separating a first requestor query into one or more sub-queries;
 - (b) prioritizing the one or more first requestor sub-queries with respect to one another;
 - (c) placing the one or more first requestor sub-queries in the query priority queue;
 - (d) separating a second requestor query into one or more sub-queries;
 - (e) prioritizing the one or more second requestor sub-queries with respect to one another; and
 - (f) placing the one or more second requestor ~~client~~ sub-queries in the query priority queue, ordering the first requestor sub-queries with respect to the second requestor sub-queries according to associated times of receipt, resolving priority disputes between simultaneously received first and second requestor queries so that higher priority sub-queries of the first and second requestors are processed before lower priority sub-queries of the first and second requestors.
7. (*currently amended*) The method according to claim 3, wherein the proactively generating step ~~(9)~~ comprises ~~the step of~~ proactively generating queries to populate cache.
8. (*currently amended*) The method according to claim 3, wherein the proactively generating step ~~(9)~~ comprises ~~the step of~~ proactively generating queries to update cached information.

9. *(currently amended)* The method according to claim 3, wherein the proactively generating step (9) comprises ~~the step of~~ ordering the proactive queries for processing based on time-to-departures and age of associated cached information.
10. *(currently amended)* The method according to claim 9, wherein the proactively generating step (9) further comprises ~~the steps of~~:
 - (a) generating a plurality of storage buckets in a memory;
 - (b) associating at least a portion of the buckets with various time-to-departures;
 - (c) ordering the buckets according at least to their associated time-of-departures;
 - (d) bucketing the proactive queries according at least to their associated time-to-departures;
 - (e) ordering the proactive queries within the buckets at least according to ages of previously cached data associated with the proactive queries;
 - (f) re-bucketing the proactive queries as their associated time-to-departures change; and
 - (g) selecting a bucket for processing according to the ordering of the buckets step (9)(e), and processing the proactive queries within the selected bucket, skipping proactive queries for which information is presently cached and newer than a predetermined age.

11. (*currently amended*) The method according to claim 10, wherein:

~~step (9)(b)~~ the associating step comprises ~~the step of~~ associating the buckets with various time-to-departures and according to one or more modes of transportation[[],]; and

~~step (9)(e)~~ the ordering of the buckets step comprises ~~the step of~~ ordering the buckets according to the nearness to time-of-departures and the associated modes of transportation.

12. (*currently amended*) The method according to claim 10, further comprising ~~the steps of~~:

(11) adding the requestor queries to a query priority queue;

(12) adding proactively generated queries from buckets selected in accordance with the selecting step (9)(g), to the query priority queue, at lower priorities than the requestor queries; and

(13) processing the requestor queries and the proactively generated queries in the query priority queue according to their priorities.

13. (*currently amended*) The method according to claim 12, wherein the adding of the requestor queries step (11) comprises ~~the steps of~~:

(a) separating a first requestor query into one or more sub-queries;

(b) prioritizing the one or more first requestor sub-queries with respect to one another;

(c) placing the one or more first requestor sub-queries in the a query priority queue;

- (d) separating a second requestor query into one or more sub-queries;
- (e) prioritizing the one or more second requestor sub-queries with respect to one another; and
- (f) placing the one or more second ~~requestor client~~ requestor sub-queries in the query priority queue, ordering the first requestor sub-queries with respect to the second requestor sub-queries according to associated times of receipt, resolving priority disputes between simultaneously received first and second requestor queries so that higher priority sub-queries of the first and second requestor are processed before lower priority sub-queries of the first and second requestor.

14. (*currently amended*) The method according to claim 1, wherein:

~~step (6) the receiving of requestor queries step~~ comprises ~~the step of~~ receiving a ~~second~~ requestor preference for real-time information and/or cached information; and

~~step (7) the determining step~~ comprises ~~the step of~~ determining to provide the ~~second~~ corresponding requestor with real-time information and/or cached information based at least in part on the ~~second~~ requestor preference.

15. (*currently amended*) The method according to claim 1, wherein ~~step (8) the determining step~~ comprises ~~the step of~~ determining to provide ~~the second a~~ requestor with real-time information and/or cached information based at least in part on one or more of the following factors:

- an availability of requested information in cache;
- a currently cached flight availability count;
- a ~~client~~ requestor preference for cached and/or realtime data;

an age of the cached information;
a ~~client~~ requestor identification and/or ~~client~~ requestor importance factor;
a time of day;
a proxy availability;
availability of recently cached information;
one or more rules associated with an information source;
an activity/load at a realtime information source;
anticipated turn around time to an information source;
total number of seats;
a nearness to time-to-departure;
a market importance;
a frequency of prior availability changes; and
a mode of transportation.

16. (*currently amended*) The method according to claim 1, further comprising ~~the step of:~~

(9) querying one or more information sources through one or more proxies.

17. (*currently amended*) The method according to claim 16, wherein the querying through one or more proxies step (9) comprises ~~the step of:~~

(a) monitoring an operational status of the one or more proxies and selecting proxies for querying based on the monitored operational status.

18. *(currently amended)* The method according to claim 16, wherein the querying through one or more proxies step (9) comprises ~~the step of~~:
 - (a) monitoring response times for the one or more proxies and selecting proxies for querying based at least on the response times.
19. *(currently amended)* The method according to claim 16, wherein the querying through one or more proxies step (9) comprises ~~the step of~~:
 - (a) maintaining a list of unsupported suppliers for which information is not available on the one or more information sources; and
 - (b) returning queries for information from the unsupported suppliers without querying an information source.
20. *(currently amended)* The method according to claim 16, wherein the querying through one or more proxies step (9) comprises ~~the step of~~:
 - (a) maintaining proxy records for available proxies in a proxy queue;
and
 - (b) removing a higher priority proxy record from the proxy queue to process a query.
21. *(currently amended)* The method according to claim 20, wherein the maintaining of proxy records step (9)(a) comprises ~~the steps of~~ maintaining the proxy queue as part of a query priority queue.

22. *(currently amended)* The method according to claim 1, wherein the receiving of requestor queries step ~~(1)~~ further comprises ~~the step of~~ receiving a ~~first~~ request ~~from a first requestor~~ for one or more of the following additional types of information:

hotel availability information;

rental car availability information;

taxi availability information;

entertainment availability information; and

restaurant availability information;

wherein the prioritizing, the processing, the determining, and the providing steps ~~(2) through (8)~~ are performed with for the one or more ~~types of~~ additional types of information.

23. *(currently amended)* The method according to claim 14, wherein the receiving of a requestor preference step ~~(6)~~ further comprises ~~the step of~~ permitting ~~the second~~ a requestor to select one of the following options:

return real-time data only;

return cached data only;

return cached data if available, otherwise consult real-time data source;

and

return cached data if the cached data is less than N seconds old, otherwise consult a real-time data source.

24. (*currently amended*) The method according to claim 14, wherein the receiving of a requestor preference step (6) further comprises ~~the step of~~ permitting ~~the second~~ a requestor to select and prioritize a plurality of the following options:

return real-time data only;

return cached data only;

return cached data if available, otherwise consult real-time data source;

and

return cached data if the cached data is less than N seconds old, otherwise consult real-time data source.

25. (*currently amended*) The method according to claim 1, further comprising ~~the step of~~:

(9) caching recently updated information separately from less recently updated information and searching the recently updated cached information when real-time data is sought.

26. (*currently amended*) The method according to claim 1, further comprising ~~the steps of~~:

(9) permitting a ~~the~~ requestor[[s]] to specify approximate departure times in the requests for airline availability information; and

(10) searching a cache for requested information.

27. (*currently amended*) The method according to claim 26, wherein the searching a cache step (4) comprises:

(a) rounding-up actual departure times for ~~each~~ flights, providing at least the rounded-up actual departure times to a hashing function, and storing information associated with the flights in a hash table based on resulting rounded-up hash table indexes; and

(b) rounding-down actual departure times for each flight, providing at least the rounded-down actual departure times to the hashing function, and storing information associated with the flights in the hash table based on resulting rounded-down hash table indexes;

~~wherein step (10) comprises the steps of:~~

(a) rounding-up a ~~user~~ requestor-specified departure time, providing the rounded-up ~~user~~ requestor-specified departure time to the hash function, and searching the hash table based on a resulting hash table index; and

(b) rounding-down a ~~user~~ the requestor-specified departure time, providing the rounded-down ~~user~~ requestor-specified departure time to the hash function, and searching the hash table based on a resulting hash table index.

28. (*currently amended*) The method according to claim 1, further comprising ~~the steps of:~~
- (9) initiating a control thread for a query request, whereby the query request includes one or more sub-queries;
 - (10) initiating a worker thread for each sub-query associated with the query request;
 - (11) prioritizing the worker threads with respect to one another; and
 - (12) processing the worker threads according to associated priorities.
29. (*currently amended*) The method according to claim 1, further comprising ~~wherein step (4) comprises the steps of~~ sharing a flight availability count record between a plurality of flight records stored in a ~~the~~ cache.
30. (*currently amended*) The method according to claim 1, further comprising ~~wherein step (4) comprises the steps of:~~
- (a) associating multiple flight records as married flight records in a ~~the~~ cache; and
 - (b) sharing a flight availability count record between at least one of the multiple flight records and another flight record in the cache.
31. (*currently amended*) The method according to claim 1, wherein the providing step (8) comprises ~~the step of~~ searching for cached information after waiting a pre-determined time for real-time information.

32. (*currently amended*) The method according to claim 1, further comprising ~~the step of:~~
- (9) communicating with at least a portion of the one or more information sources through proxies, whereby the proxies interface with the at least a portion of the one or more of the information sources using information source specific codes.
33. (*currently amended*) The method according to claim 32, wherein the communicating step (9) ~~further comprises the steps of:~~
- (a) measuring one or more response characteristics associated with the proxies;
 - (b) prioritizing the proxies according to the performance measurements; and
 - (e) maintaining a proxy priority queue, whereby queries are passed to higher priority proxies.
34. (*currently amended*) The method according to claim 32, wherein the communicating step (9) ~~further comprises the steps of:~~
- (a) identifying one or more information sources that proxies cannot communicate with; and
 - (b) filtering out queries directed to the identified information sources.

35. *(currently amended)* The method according to claim 32, wherein the communicating step (9) ~~further comprises the steps of:~~
- (a) monitoring an operational status of the proxies; and
 - (b) optimizing use of the proxies based on the operational status of the proxies.
36. *(currently amended)* The method according to claim 32, further comprising ~~the step of:~~
- (10) simulating replies from the proxies.
37. *(currently amended)* The method according to claim 3, wherein the sending step (10) ~~comprises the step of~~ sending the one or more proactively generated queries during periods of low information source activity.
38. *(currently amended)* The method according to claim 3, wherein the proactively generating step (9) ~~comprises the step of~~ generating background threads that pose queries that appear to come from requestors.
39. *(currently amended)* The method according to claim 3, wherein the proactively generating step (9) ~~comprises the step of~~ filtering one or more queries out of proactive caching.
40. *(currently amended)* The method according to claim 39, wherein the filtering step (9) ~~further comprises the step of~~ filtering out queries related to airline flights for which fares are not available.

41. *(currently amended)* The method according to claim 39, wherein the filtering step ~~(9) further comprises the step of~~ filtering out queries related to flights on unsupported carriers.
42. *(currently amended)* The method according to claim 39, wherein the filtering step ~~(9) further comprises the step of~~ filtering out queries related to flights that users are not expected to request.
43. *(currently amended)* The method according to claim 3, wherein the proactively generating step ~~(9) comprises the step of~~ assigning priority to queries according to an associated market.
44. *(currently amended)* The method according to claim 3, wherein the proactively generating step ~~(9) comprises the step of~~ assigning priorities to queries according to a frequency of flights.
45. *(currently amended)* The method according to claim 3, wherein the proactively generating step ~~(9) comprises the step of~~ assigning priorities to queries according to a frequency of changes associated with availability of corresponding flights.
46. *(currently amended)* The method according to claim 3, wherein the proactively generating step ~~(9) comprises the step of~~ assigning priority to queries according to a market importance.
47. *(currently amended)* The method according to claim 3, wherein the proactively generating step ~~(9) comprises the step of~~ assigning priority to queries according to nearness of departure time.

48. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) comprises ~~the step of~~ assigning priority to queries according to an age of cached data.
49. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) comprises ~~the step of~~ assigning priority to queries according to a number of remaining available seats.
50. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) comprises ~~the step of~~ assigning priority to queries according to anticipated increases in travel volume.
51. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) comprises ~~the step of~~ assigning priority to queries according to a type of product/service.
52. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) ~~further comprises the step of~~ assigning lower priority to forms of ground transportation.
53. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) ~~further comprises the step of~~ assigning lower priority to flights that use propeller planes.
54. (*currently amended*) The method according to claim 3 ~~42~~, wherein the proactively generating step (2) ~~further comprises the step of~~ assigning priority according to a total number of available seats.

55. (*currently amended*) The method according to claim 3, wherein the proactively generating step (9) comprises ~~the step of~~ updating cached airline availability information according to multiple priorities.
56. (*currently amended*) The method according to claim 55, wherein the proactively generating step (9) further comprises ~~the step of~~ encoding the multiple priorities into a mathematical function that assigns a combined priority value to units of cached airline availability information, and updating the cached airline availability information according to the associated combined priority values.
57. (*currently amended*) The method according to claim 55, wherein the proactively generating step (9) further comprises ~~the steps of~~:
- (a) prioritizing the cached airline availability information according to departure times;
 - (b) prioritizing the cached airline availability information according to one or more additional features; and
 - (c) updating the cached airline availability information based on a combination of the priorities associated with the departure time and the one or more additional features.
58. (*currently amended*) The method according to claim 1, further comprising ~~the step of~~:
- (9) predicting an availability status.
59. (*currently amended*) The method according to claim 58, wherein the predicting step (9) comprises ~~the step of~~ predicting availability status based on prior observed variables, including prior availability information.

60. (*currently amended*) The method according to claim 59, wherein the predicting step ~~(9)~~ further comprises ~~the steps of~~:
- (a) identifying one or more factors associated with availability status;
 - (b) learning a relationship between historical values for the one or more factors and historical values for availability status;
 - (c) generating a function according to the learned relationship; and
 - (d) providing new values for the one or more factors to the function,
- whereby the function outputs predicted values for availability status.
61. (*currently amended*) The method according to claim 1, further comprising ~~the steps of~~:
- ~~(9)~~ separating a first requestor query into one or more sub-queries;
 - ~~(10)~~ prioritizing the one or more first requestor sub-queries with respect to one another;
 - ~~(11)~~ placing the one or more first requestor sub-queries in a query priority queue;
 - ~~(12)~~ separating a second requestor query into one or more sub-queries;
 - ~~(13)~~ prioritizing the one or more second requestor sub-queries with respect to one another;
 - ~~(14)~~ placing the one or more second requestor ~~client~~ sub-queries in the query priority queue, ordering the first requestor sub-queries with respect to the second requestor sub-queries according to associated times of receipt, resolving priority disputes between simultaneously received first and second requestor queries so that higher priority sub-queries of the first and second requestors are

processed before lower priority sub-queries of the first and second requestors;
and

(15) processing the queries in the query priority queue according to
their associated priorities.

62. (*currently amended*) The method according to claim 1, further comprising ~~the steps of:~~

(9) monitoring airline availability information traffic between an
airline availability information source and one or more clients of the airline
availability information source;

(10) determining a likelihood that information will be received in a
near future by the said monitoring;

(11) generating proactive queries for information not likely to be
received in the near future; and

(12) caching information returned in response to the proactive queries.

63. (*currently amended*) A ~~computer-implemented method of~~ for interfacing between
one or more requestors and one or more information sources, comprising ~~the steps of:~~

(1) ~~receiving a first request from a first requestor for information;~~

(2) querying one or more information sources ~~for the requested~~
information;

(3) receiving the requested information from the one or more
information sources;

(4) caching the received information;

(5) ~~providing the received information to the requestor;~~

(6) receiving queries ~~a second query~~ from a ~~second~~ requestors for the information;

prioritizing the requestor queries;

processing the requestor queries in accordance with the associated priorities;

(7) determining to provide ~~amongst providing~~ the ~~second~~ requestors with at least one of the ~~following types of information~~: real-time airline availability information; and cached airline availability information based at least in part on one or more factors associated with the requestors, the requests, the requested airline availability information, and/or the airline availability information sources; and

(8) providing information to the ~~second~~ requestors in accordance with the determining ~~determination made in step (7).~~

64. (*currently amended*) A computer program product including a computer useable medium having computer program logic stored therein to enable a computer system to interface between one or more requestors and one or more information sources, wherein said computer program logic comprises:

a receiving function that causes the computer system to receive requests for information from information requestors;

a prioritizing function that causes the computer system to prioritizing the requests and to process the requests in accordance with the associated priorities;

a query process function that causes the computer system to determine to process amongst processing a query, at least, with out-of-cache ~~and~~ or with real-time information~~[[,]]~~ based at least in part on one or more factors associated with the requestors, the requests, the requested airline availability information, and/or the airline availability information sources;

a query function ~~and~~ that causes the computer system to query one or more information sources when it determines to process a query with real-time information; and

a cache control function that causes the computer system to cache information returned from the one or more information sources.

65. - 139. (*cancelled*)

140. (*new*) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;
separating a first requestor query into one or more sub-queries;

prioritizing the one or more first requestor sub-queries with respect to one another;

placing the one or more first requestor sub-queries in a query priority queue;

separating a second requestor query into one or more sub-queries;

prioritizing the one or more second requestor sub-queries with respect to one another;

placing the one or more second requestor sub-queries in the query priority queue, ordering the first requestor sub-queries with respect to the second requestor sub-queries according to associated times of receipt, resolving priority disputes between simultaneously received first and second requestor queries so that higher priority sub-queries of the first and second requestors are processed before lower priority sub-queries of the first and second requestors;

proactively generating one or more queries independent of the requestor queries;

adding the proactively generated queries to the query priority queue at lower priorities than the requestor queries;

processing the requestor queries and the proactively generated queries according to their priorities;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the
determining; and

sending the one or more proactively generated queries to an airline
availability information source and caching information returned therefrom.

141. (new). A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;

receiving the requested airline availability information from the one or
more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following
types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the
determining;

proactively generating queries independent of the requestor queries;

generating a plurality of storage buckets in a memory;

associating at least a portion of the buckets with various time-to-
departures;

ordering the buckets according at least to their associated time-of-departures;

bucketing the proactive queries according at least to their associated time-to-departures;

ordering the proactive queries within the buckets at least according to ages of previously cached data associated with the proactive queries;

re-bucketing the proactive queries as their associated time-to-departures change;

selecting a bucket for processing according to the ordering of the buckets and processing the proactive queries within the selected bucket, skipping proactive queries for which information is presently cached and newer than a predetermined age, wherein the processing includes sending the proactively generated queries to one or more airline availability information sources according to the bucket selecting; and

caching information returned from the proactive queries.

142. (new) The method according to claim 141, wherein:

the associating step includes associating the buckets with various time-to-departures and according to one or more modes of transportation; and

the ordering step includes ordering the buckets according to the nearness to time-of-departures and the associated modes of transportation.

143. (new) The method according to claim 141, further comprising:

adding the requestor queries to a query priority queue;

adding proactively generated queries from buckets selected in accordance with the selecting, to the query priority queue, at lower priorities than the requestor queries; and

processing the requestor queries and the proactively generated queries in the query priority queue according to their priorities.

144. (new) The method according to claim 143, wherein the adding of requestor queries step comprises:

separating a first requestor query into one or more sub-queries;

prioritizing the one or more first requestor sub-queries with respect to one another;

placing the one or more first requestor sub-queries in the query priority queue;

separating a second requestor query into one or more sub-queries;

prioritizing the one or more second requestor sub-queries with respect to one another; and

placing the one or more second requestor sub-queries in the query priority queue, ordering the first requestor sub-queries with respect to the second requestor sub-queries according to associated times of receipt, resolving priority disputes between simultaneously received first and second requestor queries so

that higher priority sub-queries of the first and second requestor are processed before lower priority sub-queries of the first and second requestor.

145. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the determining; and

querying one or more of the information sources through one or more proxies, including monitoring an operational status of the one or more proxies and selecting proxies for querying based on the monitored operational status.

146. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the determining; and

querying one or more of the information sources through one or more proxies, including monitoring response times for the one or more proxies and selecting proxies for querying based at least on the response times.

147. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the determining; and

querying one or more of the information sources through one or more proxies, including maintaining a list of unsupported suppliers for which information is not available on the one or more information sources and returning queries for information from the unsupported suppliers without querying an information source.

148. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information; and

providing information to the requestors in accordance with the
determining; and

querying one or more of the information sources through one or more
proxies, including maintaining proxy records for available proxies in a proxy
queue and removing a higher priority proxy record from the proxy queue to
process a query.

149. *(new)* The method according to claim 148, further comprising maintaining the
proxy queue as part of a query priority queue.

150. *(new)* A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;

receiving the requested airline availability information from the one or
more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

permitting at least one of the requestors to select one of the following
options;

return real-time data only,

return cached data only,

return cached data if available, otherwise consult real-time data source,

and

return cached data if the cached data is less than N seconds old, otherwise
consult a real-time data source;

determining to provide the requestors with at least one of the following
types of airline availability information based at least in part on a requestor
selected option;

real-time information, and

cached information; and

providing information to the requestors in accordance with the
determining.

151. (new) A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;

receiving the requested airline availability information from the one or
more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for the airline availability information;

permitting at least one of the requestors to select and prioritize a plurality
of the following options;

return real-time data only;

return cached data only;

return cached data if available, otherwise consult real-time data source;

and

return cached data if the cached data is less than N seconds old, otherwise
consult real-time data source;

determining to provide the requestors with at least one of the following
types of airline availability information based at least in part on requestor
selected options and prioritizations;

real-time information, and

cached information; and

providing information to the requestors in accordance with the
determining.

152. (new) A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;

receiving the requested airline availability information from the one or
more airline availability information sources;

caching the received airline availability information;

receiving a query from a requestor for airline availability information,
wherein the query includes one or more sub-queries;

initiating a control thread for the query,

initiating a worker thread for each sub-query associated with the query;

prioritizing the worker threads with respect to one another;

processing the worker threads according to associated priorities;

determining to provide the requestor with at least one of the following types of airline availability information;

real-time information, and

cached information; and

providing information to the requestor in accordance with the determining.

153. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

sharing a flight availability count record between a plurality of cached flight records;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information; and

providing information to the requestors in accordance with the determining.

154. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

associating multiple flight records as married flight records in the cache;

sharing a flight availability count record between at least one of the multiple flight records and another flight record in the cache;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information; and

providing information to the requestors in accordance with the determining.

155. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the determining; and

searching for cached information after waiting a pre-determined time for real-time information.

156. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;
 receiving queries from requestors for airline availability information;
 determining to provide the requestors with at least one of the following
types of airline availability information;

 real-time information, and

 cached information;

 providing information to the requestors in accordance with the
determining; and

 communicating with at least a portion of the one or more information
sources through proxies, whereby the proxies interface with the at least a portion
of the one or more information sources using information source specific codes.

157. (new) The method according to claim 156, wherein the communicating step
comprises:

 measuring one or more response characteristics associated with the
proxies;

 prioritizing the proxies according to the performance measurements; and

 maintaining a proxy priority queue, whereby queries are passed to higher
priority proxies.

158. (new) The method according to claim 156, wherein the communicating step comprises:
- identifying one or more information sources that proxies cannot communicate with; and
 - filtering out queries directed to the identified information sources.
159. (new) The method according to claim 156, wherein the communicating step comprises:
- monitoring an operational status of the proxies; and
 - optimizing use of the proxies based on the operational status of the proxies.
160. (new) The method according to claim 156, further comprising simulating replies from the proxies.
161. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:
- querying one or more airline availability information sources for airline availability information;
 - receiving the requested airline availability information from the one or more airline availability information sources;
 - caching the received airline availability information;
 - receiving queries from requestors for airline availability information;
 - determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the
determining;

proactively generating one or more queries independent of requestor
queries, including generating background threads that pose queries that appear to
come from requestors; and

sending the one or more proactively generated queries to an airline
availability information source and caching information returned therefrom.

162. (new) A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;

receiving the requested airline availability information from the one or
more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following
types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the
determining;

proactively generating one or more queries independent of requestor queries, including filtering one or more queries out of proactive caching; and
sending the one or more proactively generated queries to an airline availability information source and caching information returned therefrom.

163. (new) The method according to claim 162, wherein the filtering step includes filtering out queries related to airline flights for which fares are not available.
164. (new) The method according to claims 162, wherein the filtering step includes filtering out queries related to flights on unsupported carriers.
165. (new) The method according to claims 162, wherein the filtering step includes filtering out queries related to flights that users are not expected to request.
166. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:
- querying one or more airline availability information sources for airline availability information;
 - receiving the requested airline availability information from the one or more airline availability information sources;
 - caching the received airline availability information;
 - receiving queries from requestors for airline availability information;
 - determining to provide the requestors with at least one of the following types of airline availability information;
 - real-time information, and
 - cached information;

providing information to the requestors in accordance with the
determining;

proactively generating queries independent of requestor queries and
assigning priority to the proactively generated queries according to a total number
of available seats; and

sending the one or more proactively generated queries to an airline
availability information source and caching information returned therefrom.

167. (new) A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;

receiving the requested airline availability information from the one or
more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following
types of airline availability information;

real-time information, and

cached information;

providing information to the requestors in accordance with the
determining;

proactively generating one or more queries independent of requestor queries, including proactively generating one or more queries to update cached airline availability information according to multiple priorities; and
sending the one or more proactively generated queries to an airline availability information source and caching information returned therefrom.

168. (new) The method according to claim 167, wherein the proactively generating step comprises:

prioritizing the cached airline availability information according to departure times;

prioritizing the cached airline availability information according to one or more additional features; and

updating the cached airline availability information based on a combination of the priorities associated with the departure time and one or more additional features.

169. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

querying one or more airline availability information sources for airline availability information;

receiving the requested airline availability information from the one or more airline availability information sources;

caching the received airline availability information;

receiving queries from requestors for airline availability information;

predicting an availability status based on prior observed variables,
including prior availability information, wherein the predicting includes;
identifying one or more factors associated with availability status,
learning a relationship between historical values for the one or more
factors and historical values for availability status,
generating a function according to the learned relationship, and
providing new values for the one or more factors to the function, whereby
the function outputs predicted values for availability status;
determining to provide the requestors with at least one of the following
types of airline availability information;
real-time information,
cached information, and
predicted information; and
providing information to the requestors in accordance with the
determining.

170. (new) A method of interfacing between one or more requestors and one or more
airline availability information sources, comprising:

querying one or more airline availability information sources for airline
availability information;
receiving the requested airline availability information from the one or
more airline availability information sources;
caching the received airline availability information;
receiving queries from requestors for airline availability information;

separating a first requestor query into one or more sub-queries;
prioritizing the one or more first requestor sub-queries with respect to one
another;

placing the one or more first requestor sub-queries in a query priority
queue;

separating a second requestor query into one or more sub-queries;
prioritizing the one or more second requestor sub-queries with respect to
one another;

placing the one or more second requestor sub-queries in the query priority
queue, ordering the first requestor sub-queries with respect to the second
requestor sub-queries according to associated times of receipt, resolving priority
disputes between simultaneously received first and second requestor queries so
that higher priority sub-queries of the first and second requestors are processed
before lower priority sub-queries of the first and second requestors;

processing the queries in the query priority queue according to their
associated priorities;

determining to provide the requestors with at least one of the following
types of airline availability information;

real-time information, and

cached information; and

providing information to the requestors in accordance with the
determining.

171. (new) A method of interfacing between one or more requestors and one or more airline availability information sources, comprising:

monitoring airline availability information traffic between an airline availability information source and one or more clients of the airline availability information source;

caching at least a portion of the monitored airline availability information traffic;

determining a likelihood that information will be received in the near future by the monitoring;

generating proactive queries for information not likely to be received in the future;

caching information returned in response to the proactive queries;
receiving a queries from requestors for airline availability information;

determining to provide the requestors with at least one of the following types of airline availability information;

real-time information, and

cached information; and

providing information to the requestors in accordance with the determining.